

### REMARKS

Claims 85-86 have been withdrawn. Claims 1-84 remain pending in this application.

Claims 1-7, 9 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,818,357 to Case et al. ("Case") in view of U.S. Patent No. 5,534,711 to Ovshinsky et al. ("Ovshinsky"). The rejection is respectfully traversed.

Independent claim 1 recites: "maintaining [the] silver selenide target at a temperature of less than about 350° C during [the] sputtering process to form a silver selenide film which comprises both alpha silver selenide and beta silver selenide." As explained in the specification at ¶0048:

Silver selenide (e.g. Ag<sub>2</sub>Se) is well known for its low temperature phase transition point of 406 K (about 130° C.). At temperatures below 406 K, Ag<sub>2</sub>Se forms an orthorhombic structure, known as the "beta phase." At temperatures above 406 K (about 133° C.), Ag<sub>2</sub>Se undergoes a structural change in which the Se forms a body-centered cubic sublattice, while the Ag undergoes a melting transition. In this so-called "alpha phase" or "superionic phase," the Ag ions exhibit liquid-like diffusion.

Case teaches heating the substrate to 450° C +/- 20°. At this temperature it will be impossible for the silver selenide to form in the beta phase – it will instantly transition to the alpha phase upon contact with the substrate, which is heated far above the transition temperature. As only the alpha phase will be formed, Case does not teach all aspects of claim 1.

The Office Action notes that Ovshinsky discloses parameters, including substrate temperature of 300°C, for sputtering a chalcogenide film. The Office Action states that this disclosure is combinable with the teachings of Case to render claim 1 obvious. Applicants disagree.

One skilled in the art would not be motivated to modify Case's sputter process with the substrate temperature parameters set forth in Ovshinsky. Case states that the substrate is kept at

450°C +/- 20 degrees in order “to provide enough thermal activity to the deposited atoms to ensure proper interatomic bonding.” Case at col. 9, lines 41-45. Since Case’s process is directed at forming homojunctions, modifying Case as suggested in the Office Action would render Case’s process inoperable for its intended purpose. See MPEP § 2143.01(V), (VI) (noting that the proposed modification can not render the prior art unsatisfactory for its intended purpose or change the principle operation of the reference).

Claims 2-7, 9 and 12 depend from claim 1 and are allowable over the combination of Case and Ovshinsky along with claim 1 for at least the reasons provided above as well as on their own merits. Accordingly, Applicants respectfully request the rejection be withdrawn and the claims allowed.

Independent claims 13, 17, 25, 28, 31, 34, 43, 45, 50, 60, 77 and 81 recite similar limitations to the above-described limitation of claim 1. All of these claims stand rejected under 35 U.S.C. §103(a) as being unpatentable over Case in view of Ovshinsky and, in some instances, in further view of various other references. None of the references cure the above identified deficiencies of Case and Ovshinsky. Independent claims 13, 17, 25, 28, 31, 34, 43, 45, 50, 60, 77 and 81, and the claims depending therefrom, are therefore allowable over Case and Ovshinsky, even if combined with the other cited references. Accordingly, Applicants respectfully request the rejection be withdrawn and the claims allowed.

Since the claims of this application are subject to change, Applicants respectfully request that the double patenting rejection be held in abeyance until the rejections based on the prior art have been overcome.

Application No. 10/712,106  
Amendment dated June 30, 2008  
After Final Office Action of March 28, 2008

Docket No.: M4065.0706/P706

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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